REMARKS

STATUS OF CLAIMS

Claims 1-20 are pending.

Claims 1, 10 and 19 are objected to for informalities as indicated on page 2 of the Office Action.

Claims 1-20 are rejected under 35 USC 102(b) as being anticipated by Krichever (US Patent No. 5,591,952).

Claims 1, 3-10, and 12-20 are amended, and, thus, claims 1-20 remain pending for reconsideration, which is respectfully requested.

No new matter has been added in this Amendment. The foregoing objection and rejection is hereby traversed.

SPECIFICATION

The specification is amended to reflect the hand-written specification corrections at the time of filing of the present Application in paragraphs 33, 34, 73, and 78. Entry of the foregoing specification amendments is respectfully requested.

REJECTION

The Examiner maintains the rejection of claims 1-20 under 35 USC 102(b) as being anticipated by Krichever (US Patent No. 5,591,952). The Response to Arguments is on page 3, item 4, of the Office Action.

The Examiner in page 4, lines 1-4, of the Office Action, asserts that the present claimed invention's "detecting a region comprising the maximum number of neighboring and contiguous blocks among said detected blocks" is disclosed by Krichever, because this recitation "may be interpreted as any large quantity of neighboring and contiguous blocks." The Examiner in page 3, lines 11-15 of the Office Action also appears to rely on Krichever, column 9, lines 3-46. After a review of Krichever, however, it is understood that the Examiner may also be relying on column 9, lines 26-29, which discloses: "Still another way of distinguishing is to compare two adjacent scans to see if the same sequence of 1's and 0's is produced over a substantial part of the row,"

8

which relates to detecting the symbol 10' from other parts of the image

However, Krichever, column 9, lines 3-63 do not disclose or suggest the present claimed invention, as follows. Independent claims 1, 10 and 19, using claim 1 as an example, are amended to better emphasize the patentably distinguishing features of present invention:

> 1.   (CURRENTLY AMENDED) A two-dimensional code extraction method comprising:
>
> inputting image data;
>
> scanning said input image data in a square block unit of MxN pixels (M and N are positive integers);
>
> detecting blocks that satisfy specific conditions from said scanned blocks;
>
> detecting a region one or more two-dimensional code regions, each two-dimensional code region comprising the maximum a number of neighboring and contiguous blocks from among said detected blocks; and
>
> extracting said detected region as the two-dimensional code region one or more two-dimensional codes from among the detected two-dimensional code regions.

Support for the claim amendments can be found, for example, in FIGS. 7 and 8 of the present Application.

Krichever's column 9, lines 12-37 relate to detecting blocks as part of detecting the symbol 10' (i.e., the bar code) in Krichever's FIG. 7, which can correspond to the present claimed invention's, "detecting blocks that satisfy specific conditions from said scanned blocks." See, for example, dependent claims 1-4 and 7 of the present Application that recite specific examples of block detection according to the present claimed invention. Krichever's column 9, lines 26-29, which discloses "to compare two adjacent scans to see if the same sequence of 1's and 0's is produced over a substantial part of the row," relates to detecting blocks of the symbol 10' from other parts of the image. However, Krichever does not disclose or suggest the present claimed invention's "detecting a region one or more two-dimensional code *regions, each two-dimensional code region* comprising the *maximum*a *number of neighboring and contiguous blocks* from among said detected blocks; and *extracting* said detected region as the two-dimensional code region one or more two-dimensional codes from among the detected

9

two-dimensional code *regions*" (amended claim 1, emphasis added, FIGS. 7-8 of the present Application in which blocks 1-26 are detected and regions 1, 2, 3, and 4), because Krichever in column 9, lines 35-37, expressly discloses that once "any part of the symbol 10' (i.e., the bar code) has been located, the next task is to find the angular direction of rows." Then, Krichever, in column 9, lines 54-58, discloses that "after one row is recognized, then scans are made parallel to the good row until a different set of good characters is recognized, meaning a new row is being scanned. This continues until a complete symbol has been recognized." Therefore, Krichever, which is relied upon by the Examiner, relates to finding or locating the symbol 10' of FIG. 7, but Krichever does not disclose or suggest the present claimed invention's "*detecting* ~~a region~~ *one or more two-dimensional code regions, each ...* comprising ~~the~~ ~~maximum~~*a* *number of neighboring and contiguous blocks* *from* *among said detected blocks*; and *extracting* ~~said detected region as the two-dimensional code region~~ one or more two-dimensional codes from among the detected two-dimensional code *regions*" (amended claim 1, emphasis added). In other words, Krichever does not disclose or suggest the present claimed invention's detection of *regions* 1-4 in FIGS. 7 and 8 of the present Application as the "*one or more two-dimensional code regions, each ...* comprising ~~the~~ ~~maximum~~*a* *number of neighboring and contiguous blocks.*" See, paragraph 55, of the present Application.

Further, Krichever does not suggest to or provide a motivation to one skilled in the art to modify Krichever, because Krichever discloses finding the angular direction of rows of the symbol 10' as part of two-dimensional code extraction, and Krichever does not disclose the present claimed invention's detecting one or more two-dimensional code *regions* as part of two-dimensional code extraction, as evidenced in Krichever column 9, lines 35-37 in which once any part of the symbol 10' is found, Krichever applies its angle direction finding. In other words, Krichever does not disclose or suggest the present claimed invention's, "*detecting* ~~a region~~ one or more two-dimensional code *regions, each ...* comprising ~~the maximum~~*a* *number of neighboring and contiguous blocks* from among said detected blocks" (e.g., claim 1).

Further, in contrast to Krichever, dependent claims 5 and 14 are amended to provide "detecting a two-dimensional code *region* ~~including specific numbers of blocks from said detected region~~ comprising ~~the~~*a* *maximum number of detected* *neighboring and contiguous blocks* *from among* the detected two-dimensional code *regions*~~; and determining said~~

~~detected region as a two-dimensional code region~~," which in FIG. 7 of the present Application is the two-dimensional code region 3 with respect to the other detected two-dimensional code candidate regions 1, 2 and 4.

Benefits of the present claimed invention's "detecting ~~a region~~ **_one or more two-dimensional code regions, each ... comprising_** ~~the maximum~~**_a number of neighboring and contiguous blocks from among said detected blocks_**" (amended claim 1, emphasis added) are that one or more input image regions containing one or more two-dimensional codes can be detected and extracted. Another benefit of the present claimed invention's two-dimensional code region detection and extraction is that, if the input image contains several two-dimensional codes, to extract a number of such two-dimensional codes, it is desirable to select two-dimensional code regions containing contiguous blocks more than a predetermined number, so that correct two-dimensional codes are detected (see, paragraphs 55, 58-59 of the present Application). Regarding dependent claims 5 and 14, the present claimed invention provides a benefit of allowing detecting a two-dimensional code region having the greatest number of neighboring and contiguous blocks from among detected two-dimensional code regions and enclosing the detected two-dimensional code region having a specific margin. By making a specific margin as a width of the largest neighboring and contiguous blocks, a region containing the entire two-dimensional code can always be detected (paragraphs 56-57 of the present Application).

Support for the present claimed invention's two-dimensional code regions detecting and two-dimensional codes extracting is provided, for example, in paragraphs 55-59, 68-70, 80-101 and FIGS. 1-4 and 6-12 of the present Application. See, for example, paragraphs 7 and 58, and FIG. 3, of the present Application.

Dependent claims 7 and 16 are amended for clarity and support can be found starting in paragraph 110 of the present Application.

CONCLUSION

Withdrawal of the rejection of pending claims and allowance of pending claims is respectfully requested.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
STAAS & HALSEY LLP

Date: _August 10, 2004_

By: _____
Mehdi D. Sheikerz
Registration No. 41,307

1201 New York Avenue, NW, Suite 700
Washington, D.C. 20005
Telephone: (202) 434-1500
Facsimile: (202) 434-1501